

REMARKS

Re-examination and reconsideration of the subject matter identified in caption, pursuant to and consistent with 37 C.F.R. §1.116, and in light of the remarks which follow, are respectfully requested.

Claims 1-10 and 12-41 remain pending in this application. Method Claims 19-39 stand withdrawn from consideration.

Applicants acknowledge the interview conducted on January 14, 2004, with Examiner Salvatore, S.P.E. Morris and Applicants' Representative. The Examiners' courtesy and helpful suggestions are acknowledged with appreciation.

Claim 10 was finally rejected under 35 U.S.C. §112, second paragraph, for reasons set forth in paragraph (3) on page 2 of the Office Action. Reconsideration of this rejection is requested for at least the following reasons.

It appears to be the Examiner's position that Claim 10 is indefinite because it is contradictory to Claim 1. According to the explanation given in the original rejection of Claim 10 appearing in paragraph (8) of the Office Action mailed June 21, 2002, because Claim 1 specified a thermally shrunken non-woven synthetic fiber layer, and thermal shrinking allegedly causes some consolidation, it was not clear to the Examiner if Claim 10 was directed to a consolidated or non-consolidated synthetic non-woven layer.

Applicants point out that Claim 1 does not specify that the non-woven synthetic layer is heat-shrunken but only specifies that the synthetic fibers are heat shrunken. According to the specification, shrinking of the fibers can occur at any time, e.g., before or after optional consolidation of the layer. Those of ordinary skill would clearly

understand that Claim 10 refers to consolidation of the synthetic non-woven layer whereas Claim 1 refers to heat-shrinking of the synthetic fibers. As such, Applicants submit that the scope of Claim 10 would be readily apparent to those of ordinary skill in this art.

These arguments were presented at the aforementioned interview and the Examiners agreed that the §112, second paragraph rejection of Claim 10 would be withdrawn. Withdrawal of the rejection is therefore earnestly solicited.

Claim 10 was also rejected under 35 U.S.C. §112, first paragraph, for reasons provided in paragraph (3) on page 3 of the Office Action. Reconsideration of this rejection is requested for at least the following reasons.

As mentioned above, Claim 10 refers to consolidation of the non-woven synthetic fiber layer whereas Claim 1 refers to heat-shrinking of the synthetic fibers. Obviously, the fibers can be heat-shrunk prior to formation of the non-woven layer. In this scenario, no consolidation of the layer would occur even if the Examiner's position is correct that heat shrinkage imparts some consolidation.

During the aforementioned interview, the Examiners agreed to withdraw this rejection. Accordingly, it is requested that the §112, first paragraph rejection of Claim 10 be reconsidered and withdrawn.

Claims 1, 4-6, 9, 14 and 15 were finally rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,616,395 to Baravian et al. or, in the alternative, under 35 U.S.C. §103(a) as obvious over Baravian et al. '395 for the reasons expressed in paragraph (5) on pages 4-5 of the Office Action. Reconsideration and withdrawal of these rejections are respectfully requested for at least the reasons which follow.

A review of the disclosure of Baravian et al. '395 shows that there are at least two features specified in present Claim 1 that are not present in the laminates of the reference: (1) the laminate of the claimed invention is not subjected to a final consolidation as opposed to the expressed statement in the reference to only consolidate the first (i.e., non-woven synthetic) layer before assembly with the second glass fiber layer (column 6, lines 46-47); and (2) in the laminate of the presently claimed invention, the layers are needled together in such a manner that a portion of the fibers in the non-woven synthetic layer passes through the glass fiber layer and penetrates the side of the glass fiber layer facing away from the synthetic fiber layer.

The Office Action concedes that Baravian et al. '395 "does not explicitly teach specific needling techniques" (page 4, line 7). It is well established that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628,631, 2 U.S.P.Q.2d 1051,1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226,1236, 9 U.S.P.Q.2d 1913,1920 (Fed. Cir. 1989). Note MPEP §2131. Since Baravian et al. '395 neither expressly nor inherently discloses bonding the layers of the laminates by needling in the manner set forth in the rejected claims, it is clear that the §102(b) rejection cannot be sustained.

These arguments were presented at the aforementioned interview and the Examiners agreed that the §102(b) rejection would be withdrawn. Accordingly, withdrawal of the rejection based on 35 U.S.C. §102(b) over Baravian et al. '395 is respectfully requested.

With respect to the alternative rejection under §103(a) over Baravian et al. '395, Applicants submit the following. Although the reference indicates in column 2, lines 44-47 that the respective layers can be "assembled" by needling or stitch-knitting, this is the only mention of bonding by needling in the entire disclosure. The entire tenor of the reference is directed toward the only mode contemplated, i.e., adhesive bonding of the layers. This conclusion is consistent with the embodiments described in the working examples and the claims. There is absolutely no disclosure therein of any needling technique to bond the layers, let alone the needling technique specified in the present claims.

When the non-woven glass fiber layer and non-woven synthetic fiber layer are bonded by needling in such a way that a portion of the synthetic fibers pass through the glass fiber layer and penetrates through the side of the layer opposite the synthetic fiber layer, this serves to interlock the layers and minimize delamination. This is particularly important in the present invention where binders for final consolidation of the laminates are to be eliminated.

Applicants note the Examiner's statement on page 4 of the Office Action that needling would inherently pass a portion of the synthetic fibers from the first layer to the second layer. In bonding layers together by needling, one of ordinary skill would normally seek to avoid having the needles penetrate the opposite surface of the glass fiber layer to avoid damaging the surface of the layer. Applicants' needling technique does not happen

inherently and there is simply no disclosure in Baravian et al. '395 that would motivate those of ordinary skill to needle the layers together as described in the present claims.

A key feature of the presently claimed invention is the discovery that final consolidation of the laminate using resinous binders can be eliminated without adversely affecting the properties of products manufactured using the laminates. The elimination of end consolidation binders provides economic advantages (save the cost of binders), environmental advantages (avoid using organic solvents with binders), and surprisingly, yields products of improved strengths.

In connection with the latter, attention is directed to the data on page 20 of the specification. A laminate prepared according to the invention without using a binder for final consolidation was bituminized and compared to a similar bituminized laminate manufactured with end consolidation using a binder. The comparative data shows that the laminates prepared in accordance with the invention unexpectedly provided bituminized products having significantly higher tensile strength. Those results could not have been predicted from the teachings of Baravian et al. '395.

For at least these reasons, the §103(a) rejection of claims 1, 4-6, 9, 14 and 15 over Baravian et al. '395 should be reconsidered and withdrawn. Such action is earnestly solicited.

Claim 18 was rejected under 35 U.S.C. §103(a) as anticipated by Baravian et al. '395 as set forth in paragraph (7) of the Office Action. Claims 2, 12 and 13 were rejected under 35 U.S.C. §103(a) as unpatentable over Baravian et al. '395 as applied to Claim 1 and further in view of U.S. Patent No. 5,171,629 to Heidel et al. as set forth in paragraph

(8) of the Office Action. Claims 3, 7, 8, 16, 40 and 41 were rejected under 35 U.S.C. §103(a) as unpatentable over Baravian et al. '395 as applied to Claim 1 and further in view of U.S. Patent No. 6,235,657 to Schops et al. as set forth in paragraph (9) of the Office Action. Also, Claim 17 was rejected under 35 U.S.C. §103(a) as unpatentable over Baravian et al. '395 as applied to Claim 1 and further in view of U.S. Patent No. 4,892,780 to Cochran et al. as set forth in paragraph (10) of the Office Action. Reconsideration of these rejections is respectfully requested.

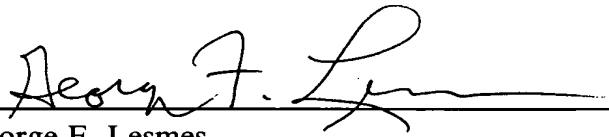
These rejections are all based on Baravian et al. '395 as the primary reference. The deficiencies of Baravian et al. '395 were pointed out above. The secondary references do not disclose or suggest a needling technique as set forth in the present claims nor do they teach that one could eliminate end consolidation using binders and obtain laminates which do not delaminate and have improved properties.

Accordingly, the various §103(a) rejections enumerated above which are based on Baravian et al. '395 as the primary reference should be reconsidered and withdrawn. Such action is earnestly requested.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned at (703) 838-6683 at her earliest convenience.

Respectfully submitted,

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